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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/333,564	06/21/1999	NANCY F. DEAN	34806/VGG/J1	4248

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EXAMINER

JUSKA, CHERYL ANN

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 10/03/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/333,564

Applicant(s)

DEAN ET AL.

Examiner

Cheryl Juska

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 32-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Amendment D, filed on July 19, 2002, has been entered. Claims 49 and 50 have been amended as requested. New claims 51-55 have been added.
2. Amendment D is sufficient to withdraw the 112, 1st rejection of claims 49 and 50 as set forth in section 4 of the last Office Action.

Claim Rejections - 35 USC § 112

3. Claim 49 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 49 states, "the encapsulant and support material together encapsulate fibers beyond one end of the individual lengths of the plurality of fibers." It is still unclear how the fibers can be encapsulated "beyond one end" of the length of the fiber. The flocked fibers have two ends: one embedded in the support material and one free end. The addition of an encapsulant Does Applicant mean that the fibers

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 32-48 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Koon '548 in view of Koon '707, as set forth in prior Office Actions.

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6. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koon '548 in view of Koon '707.

Claim 49 states, "the encapsulant and support material together encapsulate fibers beyond one end of the individual lengths of the plurality of fibers." The flocked fibers have two ends: a base end which is embedded in the support material and one free end. The addition of an encapsulant encapsulates the fiber along its length from the base end towards the free end. Thus, "the encapsulant and support material together" inherently will "encapsulate fibers beyond one end" of the fiber length in that the end which is embedded in the support material is equivalent to the "one end" recited. Therefore, claim 49 is rejected as being obvious over the cited prior art.

7. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koon '548 in view of Koon '707.

Amended claim 50 limits the combined thickness of the encapsulant and support material encapsulate approximately 85% of the individual lengths of the fibers. Although the cited prior art does not explicitly teach this limitation, it would have been obvious to one skilled in the art to encapsulate 85% of the fiber length, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

8. New claims 51, 52, and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koon '548 in view of Koon '707, as applied to claims 32 and 48 above, and in further view of US 6,080,605 issued to Distefano et al. and US 6,204,455 issued to Gilleo et al.

Said claims limit the encapsulant to a gel or polymeric gel. Koon '707 teaches an encapsulant comprising an elastomeric polymer comprising silicone, polythioether, or urethane.

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However, Distefano and Gilleo teach that silicone elastomers and silicone gels are art recognized equivalent encapsulants. See Distefano, col. 6, lines 10-13 and Gilleo, col. 8, lines 5-8. Thus, it would have been obvious to one skilled in the art to employ a silicone gel as the encapsulant of Koon '707, since silicone gels and elastomers are art recognized equivalents and the selection of either one of these known equivalent encapsulants would be within the level of ordinary skill in the art.

9. New claims 53 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koon '548 in view of Koon '707.

Said claims limit the outer surface of the first surface to have fiber tips that terminate elevationally below the support material. The prior art does not teach or suggest this limitation. However, the claims state "fiber tips, if any, that terminate..." Hence, the claim as written does not require any fiber tips to terminate below the surface of the support material. Therefore, claims 53 and 55 are rejected along with claims 35 and 48 from which they depend, respectively.

Response to Arguments

10. Applicant's arguments filed with Amendment D have been fully considered but they are not persuasive.

Applicant argues that the combination of references does not teach the present claim limitation of "an average fiber length greater than an average encapsulant thickness" (page 7 of Amendment D). Specifically, Applicant argues that Koon '707 teaches an encapsulant which is thicker than the flocked fibers are long (Amendment D, paragraph spanning pages 7-8). In response, it is reiterated that the fiber structure (i.e., interdigitated) of Koon '707 is not relied

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upon for the above rejection. Rather, Koon '707 is relied upon for its teaching of encapsulants to enhance a conductive pathway between a heat-producing material and a heat-dissipating material by providing a higher conductivity than air circulating around flocked fibers. Thus, the length of the flocked fibers of Koon '707 vs. the thickness of the encapsulant is irrelevant to the standing rejection. It is maintained that it would have been obvious to one skilled in the art to add an *encapsulant* as taught by Koon '707 to the flocked fiber heat transfer *structure* of Koon '548 with the expectation of increasing the productivity of said heat transfer structure. (Note Applicant's misinterpretation of the rejection at page 10, lines 6-7.)

Applicant also argues that the combination of the Koon references does not teach or suggest adding an encapsulant to the presently claimed thickness (i.e., average fiber length is greater than average encapsulant thickness) (Amendment D, 1st paragraph, page 8). The Examiner respectfully disagrees. The following is repeated from the prior Office Action:

Specifically, for a flocked substrate, the average length of the flock fibers is the length of said fiber exposed above the substrate plus the length of said fiber embedded in said substrate (i.e., adhesive). Thus, even if an encapsulant is added to a flocked substrate to a thickness equal to the length of fiber exposed above the substrate, the average fiber length is inevitably greater than the thickness of the encapsulant, which only covers the length of the fiber exposed above the substrate. Additionally, the polymeric encapsulant, when dried or cured, will inherently exhibit some shrinkage. For example, it is well-known in the polymer arts that the thermoset encapsulants exemplified by Koon '707 (i.e., silicon, polythioether, and polyurethane) will inherently shrink upon curing. As such, even if said encapsulant is added to the flocked substrate at a thickness equal to the length of the fiber exposed above the substrate, upon curing, said encapsulant would shrink to a degree, thereby leaving the fiber tips exposed above the encapsulant. Thus, the Examiner reasserts that the combination of Koon references inevitably teaches the present claim limitations of independent claims 32, 35, 37, 42, 45, 46, and 48, regarding fiber length and encapsulant thickness.

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Hence, Applicant's assertion that the Examiner has 'not sufficiently supported a determination that average fiber length greater than average encapsulant thickness necessarily flows from combination of the Koon references' is unfounded.

11. In response to Applicant's argument that the Examiner's conclusion of obviousness is based upon improper hindsight reasoning (Amendment D, page 9), it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the Applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). It is the Examiner's position that the above rejection only takes into account the teachings of the Koon references (i.e., the structure of Koon '548 and the encapsulant of Koon '707) and not Applicant's own disclosure.


Conclusion

12. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Cheryl Juska whose telephone number is 703-305-4472. The Examiner can normally be reached on Monday-Friday 10am-6pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



CHERYL A. JUSKA
PRIMARY EXAMINER

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September 27, 2002